1 APPLIANCE 3
2 DESCRIPTION 3
3 PACKAGE CONTENT LIST 3
4 SYMBOLS 3
5 ADDITIONAL SAFETY WARNINGS FOR CULTIVATORS 4
5.1 Operator responsibility 4
5.2 Child safety 5
5.3 Thrown object hazard 5
5.4 Fire and burn hazard 5
5.5 Carbon monoxide poisoning hazard 5
5.6 Operation on slope 5
6 PETROL SAFETY WARNINGS 6
7 UNPACKING AND ASSEMBLY 6
7.1 Unpack cultivator 6
7.2 Assembly 6
7.2.1 Install the rotor blades 6
7.2.2 Install the depth skid and wheel bracket 6
7.2.3 Install the upper handle 6
8 OPERATING INSTRUCTIONS 6
8.1 Pre-Start Inspection 6
8.2 Start the Engine 7
8.3 Stop the Engine 7
8.4 Normal operation 7
8.5 Adjustment 7
8.5.1 Depth skid and wheel bracket 7
8.5.2 Upper handle 7
8.5.3 Gas handle 7
9 TECHNICAL DATA 7
10 SOUND EMISSION 8
11 MAINTENANCE AND STORAGE 8

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11.1 Cultivator Maintenance 8
11.2 Engine Maintenance 8
11.3 Long Term Storage 8
12 SERVICE DEPARTMENT 8
13 WARRANTY 8
14 ENVIRONMENT 9
15 DECLARATION OF CONFORMITY 10

148CC CULTIVATOR
POWXG7203

1 APPLIANCE

The gasoline cultivator is suitable for cultivating the sandy soil and clayey soil of canopied vegetables base and dry land.
For weedy and deep plots, remove the weeds before using the cultivator to cultivate the land.
It is not designed for commercial use.

WARNING! Read this manual and general safety instructions carefully before using the appliance, for your own safety. Your power tool should only be passed on together with these instructions.

2 DESCRIPTION

1. Handle
2. Clutch Lever
3. Gas Handle
4. Throttle Cable
5. Handlebar
6. Adjusting Screw
7. Clutch Cable
8. Depth skid
9. Starter rope
10. Muffler
11. Oil Filler Cap
12. Wheel
13. Fuel Pump
14. Tines

3 PACKAGE CONTENT LIST

- Remove all packing materials
- Remove remaining packaging and transit supports (if existing)
- Check the completeness of the packing content
- Check the appliance, the power cord, the power plug and all accessories for transportation damages.
- Keep the packaging materials as far as possible till the end of the warranty period. Dispose it into your local waste disposal system afterwards.

WARNING Packing materials are no toys! Children must not play with plastic bags! Danger of suffocation!

1 x 148cc cultivator
1 x spark plug
1 x depth skid with 2 wheels
1 x Manual

When parts are missing or damaged, please contact your dealer.

4 SYMBOLS

In this manual and/or on the machine the following symbols are used:

	Warning / Danger		Caution! Always wear earmuffs!

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	Read the manual carefully before use.		Caution! Always wear eye protection!
	In accordance with essential applicable safety standards of European directives		Use protective gloves
	Wear sturdy, non-slip footwear		Keep bystanders away
	No naked flame		No smoking
	Cutting danger		Warning! Flying objects

5 ADDITIONAL SAFETY WARNINGS FOR CULTIVATORS

For your safety and the safety of others, please pay special attention to these precautions

- This cultivator is designed to give safe and dependable service if operated according to instructions.
- Read and understand the owner's manual before operating the cultivator. Failure to do so could result in personal injury or equipment damage.
- Exhaust gas contains poisonous carbon monoxide.
- Never run the cultivator in an enclosed area.
- Be sure to provide adequate ventilation.
- When installed, ventilated protection is to be observed.
- The rotating parts are sharp and they turn at high speed. Accidental contact can cause serious injury.
- Keep your hands and feet away from the parts while engine is running.
- Stop the engine and disengage the tines clutch before inspection or maintenance of tires.
- Disconnect the spark plug cap to prevent any possibility of accidental starting. Wear heavy gloves to protect your hands from the tines when clearing the tines or when inspecting or replacing the tines.

5.1 Operator responsibility

- Keep the cultivator in good operating condition, operating a cultivator in poor or questionable condition could result in serious injury.
- Be sure all safety devices are in working order and warning labels are in place. These items are installed for your safety.
- Be sure the safety covers (fan cover, recoil starter cover) are in place.
- Know how to stop the engine and tines quickly in case of emergency. Understand the use of all controls.
- Keep a firm hold on the handlebars. They may tend to lift during clutch engagement.
- Allowing anyone to operate this cultivator without proper training may result in injury.
- Wear sturdy, full-coverage footwear, operating this cultivator, barefoot or with open toe shoes or sandals increases your risk of injury.

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- Dress sensibly. Loose clothing may get caught in moving parts, increasing your risk of injury.
- Be alert! Operating this cultivator when you are tired, ill or under the influence of alcohol or drugs may result in serious injury.
- Keep all persons and pets away from the tilling area.
- Be sure drag bar is in place and properly adjusted.

5.2 Child safety

- Keep children indoors and supervised at all times while any outdoor power equipment is being used nearby. Young children move quickly and are attracted especially by the tines and tilling activity.
- Never assume children will remain where you last saw them, be alert and turn the cultivator off if children enter the area.
- Children should never be allowed to operate the cultivator, even under adult supervision.

5.3 Thrown object hazard

- Objects hit by the rotating tines can be thrown from the cultivator with great force, and may cause severe injury.
- Before tilling, clear the tilling area of sticks, large stone, wires, glasses, etc. Till only in daylight.
- Pieces thrown from worn or damaged tines can cause serious injury. Always inspect the tines before using the cultivator.

5.4 Fire and burn hazard

- Gasoline is extremely flammable, and gasoline vapour can explode.
- Use extreme care when handling gasoline. Keep gasoline out of reach of children.
- Refuel in a well-ventilated area with the engine stopped.
- Allow the engine to cool before refuelling. Fuel vapour or spilled fuel may be ignited.
- The engine and exhaust system become very hot during operation and remain hot for a while after stopping. Contact with hot engine components can cause burn injuries and can ignite some materials.
- Avoid touching a hot engine or exhaust system.
- Allow the engine to cool before performing maintenance or storing the cultivator indoors.

5.5 Carbon monoxide poisoning hazard

- Exhaust contains poisonous carbon monoxide; a colourless and odourless gas. Breathing exhaust can cause loss of consciousness and may lead to death.
- If you run the engine in an area that is confined or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust gas. To keep exhaust gas from building-up, provide adequate ventilation.

5.6 Operation on slope

- When tilling on slopes, keep the fuel tank less than half full to minimize fuel spillage.
- Till across the slope (at equally spaced intervals) rather than up and down it.
- Be very careful when changing the direction of the cultivator on a slope.
- Do not use the cultivator on a slope of more than 10°.
- The maximum safe grade angle shown is for reference purposes only and should be determined according to the type of the tool. Before starting the engine, check that the cultivator is not damaged and is in good condition. For your safety and the safety of others, exercise extreme care when using the cultivator up or down hill.

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6 PETROL SAFETY WARNINGS

WARNING: Use extra care when handling fuels. They are inflammable and the vapours are potentially explosive. The following points must be observed.

- Use only an approved container.
- Never remove the fuel cap or add fuel when the engine is running. Allow engine exhaust components to cool before refuelling.
- Do not smoke.
- Never refuel the machine indoors.
- Never store the machine or fuel containers in places where there is a naked flame, such as a water heater.
- If fuel is spilt, do not attempt to start the power source before moving the machine away from the spillage area.
- Always replace and securely tighten the fuel cap after refuelling.
- Whenever the tank is drained, this should be done outdoors.

7 UNPACKING AND ASSEMBLY

7.1 Unpack cultivator

Carefully lift the cultivator out of the box, remove any packing material and cut any ties holding the handlebar pieces to the cultivator assembly.

7.2 Assembly

7.2.1 Install the rotor blades

Fit the two identical rotor blades to the gear shaft with the columniform pin, which is locked by a cotter pin. (Fig. 1)

7.2.2 Install the depth skid and wheel bracket

Fit the depth skid and wheel bracket using the two columniform pin and cotter pin supplied. (Fig. 2)

7.2.3 Install the upper handle

Fit the upper handle using the plastic adjusting screws. Note that these are marked with a pivot point, which must face each other for the handle to function correctly. (Fig. 3)

8 OPERATING INSTRUCTIONS

8.1 Pre-Start Inspection

- Make sure all safety guards are in place and all nuts and bolts are secure.
- Check oil level in engine crankcase.

Important! Engine is shipped from the factory without oil. You must add engine oil before starting engine.

- Inspect air filter for cleanliness.
- Check the fuel supply. Do not fill gas tank completely full, allow space for fuel to expand.
- Be sure spark plug wire is attached and spark plug is tightened securely.

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- Check depth regulator lever position.
- Examine underneath and around engine for signs of oil or fuel leaks.
- Inspect fuel hoses for tightness and fuel seepage.
- Look for signs of engine damage.
- Remove excessive debris from muffler area and recoil starter.

8.2 Start the Engine

- Set the gas handle to " " position. (Fig. 4)
- Press the fuel pump max. three times. (Fig. 5)
- Slowly pull the starter rope straight until you feel a resistance. Pull starter rope with a rapid full arm stroke until engine starts. (Fig. 6)
- If the engine does not start, repeat the starting procedure.
- After starting the engine, set the required engine speed using gas handle.

8.3 Stop the Engine

Set the gas handle to "●" position. (Fig. 4)

8.4 Normal operation

- The clutch engages and disengages the power from the engine to the transmission. (Fig. 7)
- When the clutch lever is squeezed, the clutch is engaged and power is transmitted.
- Squeeze the lever, the tool will be rotated.
- When the lever is released, the clutch is disengaged and power is not transmitted.
- Release the clutch lever, the tool will be stopped.

8.5 Adjustment

8.5.1 Depth skid and wheel bracket

- For moving, put the wheel bracket at the bottom. (Fig. 2)
- For working, put the depth skid at the bottom. (Fig. 8)
- The setting of the depth skid determines the blade depth. The deeper the rod is set, the deeper the machine will till the earth. The correct blade depth is the key to easy cultivation. The setting varies according to soil conditions. For best results, cultivate the soil 2-3 times in different directions.

8.5.2 Upper handle

- Loosen the plastic adjusting screws.
- Adjust the upper handle to a suitable position.
- Tighten the plastic adjusting screws.

8.5.3 Gas handle

- Adjust the gas handle to appropriate position.
- Position = Minimum engine speed
- Position = Maximum engine speed
- Position ● = Engine off

9 TECHNICAL DATA

Engine displacement	148cc
Weight	30.5kg

Max. rotational speed	3000 min-1
Cutting width	400mm
Blade thickness	3,0mm
Motor Power	2,21kW
Oil Tank Capacity	600ml
Fuel tank capacity	800ml

10 SOUND EMISSION

Noise emission values measured according relevant standards

Noise power level LWA	80 dB(A)	K = 3 dB(A)
Noise power level LPA	93 dB(A)	K = 3 dB(A)

ATTENTION ! The sound power pressure may exceed 85 dB(A), in this case individual hearing protection must be worn.

aw (Vibration) :	6.5 m/s²	K = 1.5 m/s²

11 MAINTENANCE AND STORAGE

11.1 Cultivator Maintenance

- The transmission case has grease installed at the factory. We recommend checking the grease level every month. DO NOT overfill.
- Keep all screws, nuts, and bolts tight.
- For cold weather operation, store the unit in a cool environment. Transferring the unit from a warm to a cold place can cause the build up of harmful condensation.

11.2 Engine Maintenance

Please follow engine operator's manual to maintain the engine.

11.3 Long Term Storage

If your cultivator will not be used for more than one month, prepare it for long term storage.

- Drain the gasoline in the fuel tank and carburettor.
- Check oil. Remove the spark plug, add a little oil into the cylinder, fit spark plug, rotate the crankshaft and let oil be well-distributed in the inside surface of the cylinder.
- Pull the starter rope slowly until you feel resistance, tie a knot to fix the rope, then close the air valve to keep out the dust and other pollutants.
- Remove all debris from cultivator tines and engine.
- Store cultivator in a clean and dry place.

12 SERVICE DEPARTMENT

Damaged switches must be replaced by our after-sales service department. If the connecting cable (or mains plug) is damaged, it must be replaced by a special connecting cable which is available from our service department. Replacement of the connecting cable should only be carried out by our service department or by a qualified specialist (qualified electrician).

13 WARRANTY

- This product is warranted as provided by law for a 36 months period effective from the date of purchase by the first user.
- This warranty covers all material or production flaws. It does not include defective parts subject to normal wear & tear such as bearings, brushes, cables, and plugs, or

accessories such as drills, drill bits, saw blades, etc. ; damage or defects resulting from maltreatment, accidents or alterations; nor the cost of transportation.

- This warranty covers all material or production flaws, excluding batteries, chargers, defective parts subject to normal wear and tear such as, in particular, bearings, brushes, cables, plugs… Accessories such as drills, drill bits, saw blades etc. also do not fall under this warranty.
- Damage and/or defects resulting from inappropriate use also do not fall under the warranty provisions.
- We also disclaim all liability for any bodily injury resulting from inappropriate use of the tool.
- Repairs may only be carried out by an authorised customer service centre for Powerplus tools.
- You can always obtain more information at the number 00 32 3 292 92 90.
- Any transportation costs shall always be borne by the customer, unless agreed otherwise in writing.
- At the same time, no claim can be made on the warranty if the damage of the device is the result of negligent maintenance or overload.
- Definitely excluded from the warranty is damage resulting from fluid permeation, excessive dust penetration, intentional damage (on purpose or by gross carelessness), inappropriate usage (use for purposes for which the device is not suitable), incompetent usage (e.g. not following the instructions given in the manual), inexpert assembly, lightning strike, erroneus net voltage. This list is not exhaustive.
- Acceptance of claims under warranty can never lead to the prolongation of the warranty period nor commencement of a new warranty period in case of a device replacement.
- Devices or parts which are replaced under the warranty therefore remain the property of Varo NV.
- We reserve the right to reject a claim whenever the purchase cannot be verified or when it is clear that the product has not been properly maintained. (Clean ventilation slots, carbon brushes serviced regularly, etc.).
- Your purchase receipt must be kept as proof of date of purchase.
- Your appliance must be returned undismantled to your dealer in an acceptably clean state, (in its original blow-moulded case if applicable to the unit), accompanied by proof of purchase.

14 ENVIRONMENT

Should your appliance need replacement after extended use, do not dispose of it with the household refuse, but in an environmentally safe way.
Please dispose of used motor oil in a manner that protects the environment. We suggest you take it in a sealed container to your local service station for recycling. Do not throw it into the refuse or pour it on the ground.

15 DECLARATION OF CONFORMITY

VARO N.V. - Joseph Van Instraat 9 - BE2500 Lier - BELGIUM, declares that,

product : 148cc cultivator
trade mark : POWERplus
model : POWXG7203

is in conformity with the essential requirements and other relevant provisions of the applicable European Directives, based on the application of European harmonized standards. Any unauthorized modification of the apparatus voids this declaration.

European Directives, and their amending directives:

2004/108/EC			
2006/42/EC			
2000/14/EC	Annex VI	LwA	92dB(A) / 93dB(A)
	Testing Authority		Intertek / Leatherhead
97/68/EC	Engine class	SN3	
	EDP 125h		
	Testing Authority		VCA / Bristol

European harmonized standards, and their amendments:

EN709: 1997
EN ISO 14982: 2009

The undersigned acts on behalf and under the power of attorney of the company management,

Philippe Vankerkhove
Certification Manager
Date: 14/11/2011

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